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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,174	08/25/2006	Ian James Forster	124642	9558

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EXAMINER	
MAHASE, PAMESHANAND	
ART UNIT	**PAPER NUMBER**
2612	

NOTIFICATION DATE	DELIVERY MODE
02/17/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

efiling@cojk.com

Office Action Summary	Application No.	Applicant(s)	
	10/520,174	FORSTER, IAN JAMES	
	Examiner	Art Unit	
	PAMESHANAND MAHASE	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *39-61* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *39-61* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 August 2006* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/3/2009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's election without traverse of claims 39-61 in the reply filed on November 29, 2010 is acknowledged. Thus, claims 39-61 are presented for examination and claims 62-76 have been withdrawn from consideration.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on December 3, 2009 has been considered by the examiner.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 39-42, 47-48, and 57-59 are rejected under 35 U.S.C. 102(e) as being unpatentable over Carrender et al. [U.S. Patent 6,745,008]

With regard to claim 39, Carrender et al. meets the limitation a tag receiving a signature signal by disclosing an RFID tag receiving RF signals from a reader (figure 2, items22 and 24), the limitation of processing circuitry sending an identification code to a reader by disclosing each tag having a unique identification code associated with a tag (column 4, lines 21-28), the limitation of a power supplying means configured to provide an electrical potential difference for

energizing a tag by disclosing beam-powered RFID tags having energy transmitted to them in order to power them (column 1, lines 56-67), the limitation of a clocking means circuitry met by multiple signal generators on an RFID tag (figure 5A, items 68, 70, and 72; column 5, lines 11-27), and the limitation of the output code being governed by the magnitude of the received signal met by disclosing beam-powered RFID tags having energy transmitted to them in order to power them thus rendering a certain power level at which a tag can respond (column 1, lines 56-67).

With regard to claim 40, please refer to the rejection for claim 39 as the subject matter is addressed.

With regard to claim 41, Carrender et al. meets the limitation of an oscillator configured to oscillate at a constant frequency by disclosing a modulation circuit modulating at a primary frequency (column 2, lines 49-59).

With regard to claim 42, please refer to the rejection for claim 39 as the subject matter is addressed.

With regard to claim 47, Carrender et al. meets the limitation of an antenna assembly configured to generate a response radiation by disclosing an RFID tag (figure 5A) configured to transmit data through an antenna (column 1, lines 32-42).

With regard to claim 48, Carrender et al. meets the limitation of an antenna assembly configured to generate a response radiation by disclosing an RFID tag (figure 5A) configured to transmit data through an antenna (column 1, lines 32-42) and the limitation of processing circuitry sending an identification code to a reader by disclosing each tag having a unique identification code associated with a tag (column 4, lines 21-28).

With regard to claim 57, please refer to the rejection for claim 39 as the subject matter is

addressed.

With regard to claim 58, Carrender et al. meets the limitation of of processing circuitry sending an identification code to a reader by disclosing each tag having a unique identification code associated with a tag (column 4, lines 21-28) and the limitation of a frequency generator by disclosing multiple frequency generators on an RFID tag (figure 5A) thus enabling the tag to send its identification code according to a generated frequency.

With regard to claim 59, please refer to the rejection for claim 58 as the subject matter is addressed.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 43 and 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carrender et al. [U.S. Patent 6,745,008] in view of Mays et al. [U.S. Patent 6,838,989]

With regard to claim 43, Carrender et al. meets the limitation of the output code being governed by the magnitude of the received signal met by disclosing beam-powered RFID tags having energy transmitted to them in order to power them thus rendering a certain power level at which a tag can respond (column 1, lines 56-67). However, Carrender et al. fails to disclose an amplifier for amplifying received signals.

In the field of RFID communications, Mays et al. teaches the use of an amplifier in an RFID tag to amplify the received signal (column 7, lines 31-53). It would be obvious to one with ordinary skill in the art to combine the received RF signals from an RFID transceiver and RFID tag amplifier to create an RFID tag that is capable of amplifying received RF signals in order to meet the required power level for tag operations to occur.

With regard to claim 43, Carrender et al. meets the limitation of the output code being governed by the magnitude of the received signal met by disclosing beam-powered RFID tags having energy transmitted to them in order to power them thus rendering a certain power level at which a tag can respond (column 1, lines 56-67). However, Carrender et al. fails to disclose an amplifier for amplifying received signals.

In the field of RFID communications, Mays et al. teaches the use of an amplifier in an RFID tag to amplify the received signal (column 7, lines 31-53). The limitation of the transformer being a piezo-electric is a design choice. The artisan recognizes the obviousness of using a piezo-electric transformer in an RFID tag as it would allow a manufacturer to fabricate a transformer that will operate well with the other tag components. Therefore, it would be obvious to one with ordinary skill in the art to combine the received RF signals from an RFID transceiver and RFID tag amplifier to create an RFID tag that is capable of amplifying received RF signals

in order to meet the required power level for tag operations to occur.

8. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carrender et al. [U.S. Patent 6,745,008] in view of Mays et al. [U.S. Patent 6,838,989], and further in view of Amtmann [U.S. Patent Publication 2003/0095033]

With regard to claim 45, Carrender et al. meets the limitation of the output code being governed by the magnitude of the received signal met by disclosing beam-powered RFID tags having energy transmitted to them in order to power them thus rendering a certain power level at which a tag can respond (column 1, lines 56-67). However, Carrender et al. fails to disclose an amplifier for amplifying received signals.

In the field of RFID communications, Mays et al. teaches the use of an amplifier in an RFID tag to amplify the received signal (column 7, lines 31-53). The limitation of the transformer being a piezo-electric is a design choice. The artisan recognizes the obviousness of using a piezo-electric transformer in an RFID tag as it would allow a manufacturer to fabricate a transformer that will operate well with the other tag components. Therefore, it would be obvious to one with ordinary skill in the art to combine the received RF signals from an RFID transceiver and RFID tag amplifier to create an RFID tag that is capable of amplifying received RF signals in order to meet the required power level for tag operations to occur. However, the combination of Carrender et al. and Mays et al. fails to disclose a multilayer transformer.

In the field of RFID communications, Amtmann teaches the use of a tag's power supply circuit containing a limiting stage and a clock generation stage (paragraph 0025). It would be obvious to one with ordinary skill in the art to combine the received RF signals, power

transformer, and multi-component power supply for and RFID tag to create a passive RFID tag that is able to generate power from the received RF signals sent to it from a transceiver and use the power generate to operate the tag as well as control the tag's clock.

9. Claims 46, 49-50, and 52-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carrender et al. [U.S. Patent 6,745,008] in view of Baldischweiler et al. [U.S. Patent Publication 2003/0121985]

With regard to claim 46, Carrender et al. meets the limitation of a clocking means circuitry met by multiple signal generators on an RFID tag (figure 5A, items 68, 70, and 72; column 5, lines 11-27). However, Carrender et al. fails to disclose a safety mechanism preventing excessive power being supplied to the tag's circuitry.

In the field of RF communications, Baldischweiler et al. teaches the excess energy received from an interrogator being used to increase the clock frequency thus preventing the excessive energy from damaging the tag's circuitry (paragraph 0008). It would be obvious to one with ordinary skill in the art to combine the received RF signals and excessive energy use to create an RFID tag that is able to receive RF signals and use them to power the tag and divert excess generate energy in order to prevent any damage to the RFID tag's circuitry.

With regard to claim 49, please refer to the rejection for claim 46 as the subject matter is addressed.

With regard to claim 50, please refer to the rejection for claim 46 as the subject matter is addressed.

With regard to claim 52, Carrender et al. meets the limitation of a master clock signal

being in constant operation by disclosing by disclosing multiple signal generators on an RFID tag (figure 5A, items 68, 70, and 72; column 5, lines 11-27) creating multiple signals on an RFID tag according to a control signal (column 5, lines 11-27) that are sent to the tag's processor (figure 5A, item 74).

With regard to claim 53, please refer to the rejection for claim 46 as the subject matter is addressed.

With regard to claim 54, please refer to the rejection for claim 46 as the subject matter is addressed.

10. Claim 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carrender et al. [U.S. Patent 6,745,008] in view of Baldischweiler et al. [U.S. Patent Publication 2003/0121985], and further in view of Mejia [U.S. Patent 4,680,582]

With regard to claim 51, Carrender et al. meets the limitation of a clocking means circuitry met by disclosing multiple signal generators on an RFID tag (figure 5A, items 68, 70, and 72; column 5, lines 11-27) creating multiple signals on an RFID tag that are sent to the tag's processor (figure 5A, item 74). However, Carrender et al. fails to disclose a safety mechanism preventing excessive power being supplied to the tag's circuitry.

In the field of RF communications, Baldischweiler et al. teaches the excess energy received from an interrogator being used to increase the clock frequency thus preventing the excessive energy from damaging the tag's circuitry (paragraph 0008). It would be obvious to one with ordinary skill in the art to combine the received RF signals and excessive energy use to create an RFID tag that is able to receive RF signals and use them to power the tag and divert

excess generate energy in order to prevent any damage to the RFID tag's circuitry. However, the combination of Carrender et al. and Baldischweiler et al. fails to disclose a tag's master clock being synchronized according to a received signal.

In the field of remote communications, Mejia teaches a remote station synchronizing its own clock according to that of a received signal from a master station (column 1, lines 6-18). It would be obvious to one with ordinary skill in the art to combine the received RF signals, the increase in a tag's clock, and clock synchronization to create an RFID tag having an oscillator that synchronizes its own clock according to a received RF signal and increases the clock signal as the energy received from the RF signal increases.

11. Claims 55-56 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carrender et al. [U.S. Patent 6,745,008] in view of Baldischweiler et al. [U.S. Patent Publication 2003/0121985], and further in view of Mansfield, Jr. et al. [U.S. Patent 6,441,723]

With regard to claim 55, Carrender et al. meets the limitation of a clocking means circuitry met by multiple signal generators on an RFID tag (figure 5A, items 68, 70, and 72; column 5, lines 11-27). However, Carrender et al. fails to disclose a safety mechanism preventing excessive power being supplied to the tag's circuitry.

In the field of RF communications, Baldischweiler et al. teaches the excess energy received from an interrogator being used to increase the clock frequency thus preventing the excessive energy from damaging the tag's circuitry (paragraph 0008). It would be obvious to one with ordinary skill in the art to combine the received RF signals and excessive energy use to create an RFID tag that is able to receive RF signals and use them to power the tag and divert

excess generate energy in order to prevent any damage to the RFID tag's circuitry. However, the combination of Carrender et al. and Baldischweiler et al. fails to disclose multiple logic gates connected to an oscillator.

In the field of communications, Mansfield, Jr. et al. teaches a transmitter having multiple logic gates connected to an oscillation circuit (column 4, lines 57-67; column 5, lines 1-12). It would be obvious to one with ordinary skill in the art to combine the received RF signals, increase in clock speed, signal generators, and logic gates to create an RFID tag that is able to generate an RFID tag capable of generating multiple oscillation frequencies based upon the received RF signals from a transmitter and have the generated frequencies transmitted to the processor of the tag via multiple logic gates.

With regard to claim 56, please refer to the rejection for claim 55 as the subject matter is addressed.

With regard to claim 61, Carrender et al. meets the limitation of a clocking means circuitry met by multiple signal generators on an RFID tag (figure 5A, items 68, 70, and 72; column 5, lines 11-27). However, Carrender et al. fails to disclose a safety mechanism preventing excessive power being supplied to the tag's circuitry.

In the field of RF communications, Baldischweiler et al. teaches the excess energy received from an interrogator being used to increase the clock frequency thus preventing the excessive energy from damaging the tag's circuitry (paragraph 0008). It would be obvious to one with ordinary skill in the art to combine the received RF signals and excessive energy use to create an RFID tag that is able to receive RF signals and use them to power the tag and divert excess generate energy in order to prevent any damage to the RFID tag's circuitry. However, the

combination of Carrender et al. and Baldischweiler et al. fails to disclose multiple logic gates connected to an oscillator.

In the field of communications, Mansfield, Jr. et al. teaches a transmitter having multiple logic gates connected to an oscillation circuit (column 4, lines 57-67; column 5, lines 1-12). The artisan recognizes the use of CMOS logic gates as a design choice as CMOS logic gates would enable a artisan to place logic gates onto a tag that are small and would not require much power to operate. Therefore, it would be obvious to one with ordinary skill in the art to combine the received RF signals, increase in clock speed, signal generators, and logic gates to create an RFID tag that is able to generate an RFID tag capable of generating multiple oscillation frequencies based upon the received RF signals from a transmitter and have the generated frequencies transmitted to the processor of the tag via multiple logic gates.

12. Claim 60 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carrender et al. [U.S. Patent 6,745,008] in view of Lee et al. [U.S. Patent 6,700,931]

With regard to claim 60, Carrender et al. meets the limitation a tag receiving a signature signal by disclosing an RFID tag receiving RF signals from a reader (figure 2, items22 and 24), the limitation of processing circuitry sending an identification code to a reader by disclosing each tag having a unique identification code associated with a tag (column 4, lines 21-28), the limitation of a power supplying means configured to provide an electrical potential difference for energizing a tag by disclosing beam-powered RFID tags having energy transmitted to them in order to power them (column 1, lines 56-67), the limitation of a clocking means circuitry met by multiple signal generators on an RFID tag (figure 5A, items 68, 70, and 72; column 5, lines 11-

27), and the limitation of the output code being governed by the magnitude of the received signal met by disclosing beam-powered RFID tags having energy transmitted to them in order to power them thus rendering a certain power level at which a tag can respond (column 1, lines 56-67). However, Carrender et al. fails to disclose the tag synchronizing to avoid contention.

In the field of RFID communications, Lee et al. teaches an RFID synchronizing with the pulsation sent from an RFID tag reader (column 2, lines 16-26). It would be obvious to one with ordinary skill in the art to combine the processing circuitry, received RF signals, and signal generators to create an RFID tag that is able to generate frequencies according to received RF signals and communicate with an RFID reader according to a synchronization signal in order to avoid contention with other RFID tags.

Prior Art

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 5,369,800 to Takagi et al. discloses a multi-frequency communications system.

U.S. Patent Publication 2002/0149484 to Carrender discloses an RFID system where a reader randomly generates communication frequencies.

U.S. Patent 6,154,137 to Goff et al. discloses a combination tag having an magnetically-responsive element.

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAMESHANAND MAHASE whose telephone number is (571) 270-7223. The examiner can normally be reached on Monday- Friday 8:00AM - 5:00PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Wu can be reached on 571-272-2964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PAMESHANAND MAHASE/
Examiner, Art Unit 2612

/Daniel Wu/
Supervisory Patent Examiner, Art Unit 2612